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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,955	03/22/2001	Stephane Berche	0142-0353P-SP	2838
2292	7590	10/18/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			KIM, CHONG R	
			ART UNIT	PAPER NUMBER
			2623	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/813,955

Applicant(s)

BERCHE ET AL.

Examiner

Charles Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 4, 2005 has been entered.

Response to Amendment and Arguments

2. Applicant's amendment filed on August 4, 2005 has been entered and made of record.
3. Applicant's arguments have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Applicant's argue that their claimed invention (claims 1 and 11) differs from the prior art because "Takahashi et al. discloses at column 8, lines 33-35 that 'where the size of the quadrilateral is always constant, the width 707, the height 709 and the thickness of frame 711 are not required to be specifically controlled'. That is, in Takahashi et al., there is no need to specify characterization data since they have fixed values all over the document. Thus, Takahashi et al. does not disclose 'storing characterization data such that the box subsequently can be identified automatically without any point P within said box being designated, for next documents of a same type' as recited in independent claim 1 and similarly in independent claim 11." The Examiner disagrees. Takahashi clearly explains that the characterization data can be stored in

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col. 7, lines 38-43. The Examiner would like to point out that the applicant's citation of Takahashi (col. 8, lines 33-35) provides an example of one situation--if the size of the quadrilateral is always constant. In cases where the size is not always constant, the characterization data is stored, see col. 7, lines 38-43.

Applicant's further argue that "Takahashi et al.'s 'quadrilateral' refers to one-character box, whereas in Applicants' claimed invention, the box is associated with the characters." The Examiner responds by pointing out that Takahashi clearly discloses the step of storing characterization data for a field (multiple boxes associated with characters) in col. 9, line 10-col. 10, line 4. Therefore, Takahashi appears to still be applicable to claims 1 and 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6-11, 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Takahashi et al., U.S. Patent No. 5,966,473 ("Takahashi") and Syeda-Mahmood et al., U.S. Patent No. 6,621,941 ("Syeda").

Referring to claim 1, Takahashi discloses a method of recognizing documents in a system having a scanner (26) connected to a computer, the method comprising:

- a. scanning the document (col. 4, lines 59-62);

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- b. using a pointing device to designate an arbitrary point P in at least one box of the documents (col. 6, lines 10-20);
- c. recognizing by OCR the characters in the box (col. 10, lines 20-41);
- d. storing the recognized characters in a first database (col. 10, lines 26-29. Note that the recognized characters are stored in a database when they are outputted to a display screen);
- e. storing, in a second database (113) connected to the computer to store characterization data (size and position of the box) such that the box subsequently can be identified automatically by the first software without any point P within the box being designated (col. 7, line 38-col. 8, line 35).

Takahashi does not explicitly disclose that a plurality of documents are scanned, and that the stored recognized characters enable the scanned documents to be indexed. However, these features were exceedingly well known in the art. For example, Syeda discloses the steps of recognizing characters in a box of a document and storing the recognized characters in a database connected to a computer to enable a plurality of scanned documents to be indexed (col. 9, lines 9-33 and col. 15, line 60-col. 16, line 38).

Takahashi and Syeda are combinable because they are both concerned with image processing methods for document recognition. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the stored recognized characters of Takahashi to enable scanned documents to be indexed, as taught by Syeda. The suggestion/motivation for doing so would have been to enhance the efficiency of the system by

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facilitating the storing of the documents (Syeda, col. 2, lines 46-63). Therefore, it would have been obvious to combine Takahashi with Syeda to obtain the invention as specified in claim 1.

Referring to claim 2, Takahashi further discloses that the designation step comprises searching for and identifying the box of the document which contains the point P designated by a user (col. 6, line 20-col. 7, line 59).

Referring to claim 3, Takahashi further discloses the step of applying a shape search algorithm over a determined search zone surrounding the point P as previously designated by the user (col. 6, line 20-col. 7, line 59 and figure 6).

Referring to claim 4, Takahashi further discloses that the shape search algorithm is a projection algorithm which counts the number of pixels present in each vertical or horizontal line of the determined search zone and which, on the basis of these count numbers, finds the horizontal and vertical lines present in the search zone by examining the peaks in the X and Y projection profiles (figure 6).

Referring to claim 6, Takahashi further discloses that the OCR step is preceded by a step in which the user defines the type of character to be recognized in the box document (col. 10, lines 20-40 and figure 10).

Referring to claim 7, see the rejection of at least claim 8 below. Takahashi and Syeda do not explicitly disclose that the scanning step is performed initially for a set of documents to be processed, with the steps of identifying the box and performing OCR being performed subsequently. Instead, the combination of Takahashi and Syeda disclose that the steps of scanning the document, identifying the box, and performing OCR are applied in sequence to the each of the documents to be processed (see the rejection of claim 8 below). Note that the

essential differences between the two processes is that one process scans the entire document set initially (and then identifies the box and performs OCR), while the other process scans each document individually (and then identifies the box and performs OCR for each document). The Examiner notes that these two differences are not considered to be patentably distinct, since the specific scanning process (scanning the entire document set or scanning the documents individually) would have been chosen by the user during experimentation to meet his/her specific requirements. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform the scanning step initially for the set of documents to be processed, with the steps of identifying the box and performing OCR being performed subsequently; since no new or unexpected results are seen to be attained by performing the scanning step initially for the set of documents rather than performing the scanning step individually for each document.

Referring to claim 8, Takahashi further discloses that the scanning step is initially performed for a first document, with the steps of identifying the box and performing OCR subsequently being performed on that document so as to define a sequence (col. 4, lines 59-62, col. 6, line 20-col. 7, line 59, and col. 10, lines 20-41). However, Takahashi does not explicitly disclose that this sequence is repeated in succession for each of the documents to be processed.

Syeda discloses a plurality of documents to be processed, as noted above (see also col. 9, lines 35-40 and figure 8).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the recognition sequence of Takahashi for the plurality of documents of Syeda. The suggestion/motivation for doing so would have been to recognize the characters for each of

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the documents to be processed, thereby enhancing the productivity of the system. Therefore, it would have been obvious to combine Takahashi with Syeda to obtain the invention as specified in claim 8.

Referring to claim 9, Takahashi does not explicitly disclose that the documents to be recognized and indexed are a set of technical drawings of the same or different types.

Syeda discloses documents to be recognized and indexed that are a set of technical drawings of the different types (figure 8).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the document of Takahashi so that it comprises a set of technical drawings as taught by Syeda. The suggestion/motivation for doing so would have been to increase the flexibility of the system by enabling it to recognize and index a variety of different types of documents. Therefore, it would have been obvious to combine Takahashi with Syeda to obtain the invention as specified in claim 9.

Referring to claim 10, Takahashi further discloses that the documents to be recognized and indexed are a set of forms of different types (col. 3, lines 40-67).

Referring to claim 11, Takahashi discloses an apparatus for recognizing and indexing documents, the apparatus comprising:

- a. a scanner (26) for scanning a document and delivering an image of the document (col. 4, lines 59-62);
- b. a computer connected to the scanner to receive the scanned image (col. 4, lines 59-652);

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- c. a first database connected to the computer for storing the scanned image (figure 1);
- d. a first software for using a pointing device to designate an arbitrary point P in at least one box of the image (col. 6, lines 10-20), for searching for and identifying the box containing the point P designated by a user (col. 6, line 20-col. 7, line 59), for recognizing by OCR the characters in the box (col. 10, lines 20-41), and for storing the recognized characters (col. 10, lines 26-29. Note that the recognized characters are stored when they are outputted to a display screen);
- e. a second database (113) connected to the computer to store characterization data (size and position of the box) such that the box subsequently can be identified automatically by the first software without any point P within the box being designated (col. 7, line 38-col. 8, line 35).

Takahashi does not explicitly state that the stored recognized characters enable the scanned images to be indexed. However, this feature was exceedingly well known in the art. For example, Syeda discloses the steps of recognizing characters in a box of an image and storing the recognized characters to enable scanned images to be indexed (col. 9, lines 9-33 and col. 15, line 60-col. 16, line 38).

Takahashi and Syeda are combinable because they are both concerned with image processing methods for document recognition. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize the stored recognized characters of Takahashi to enable scanned images to be indexed, as taught by Syeda. The suggestion/motivation for doing so would have been to enhance the efficiency of the system by

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facilitating the storing of the documents (Syeda, col. 2, lines 46-63). Therefore, it would have been obvious to combine Takahashi with Syeda to obtain the invention as specified in claim 11.

Referring to claim 13, see the rejection of at least claim 6 above.

Referring to claim 14, Takahashi further discloses that the first and second databases are integrated in a memory of the computer (col. 4, lines 32-col. 5, line 38 and figures 1-2).

Referring to claim 15, Takahashi further discloses that the pointing device is a finger of the user (col. 6, lines 10-19).

Referring to claim 16, see the rejection of at least claim 11 above.

Referring to claim 17, Takahashi further discloses that the first software includes a shape search algorithm (col. 7, line 38-col. 8, line 35. Note that the algorithm looks for a quadrilateral object).

Referring to claim 18, Takahashi further discloses that the first software includes a projection (histogram) algorithm for counting the number of pixels present in each vertical or horizontal line of a determined search zone surrounding the previously designated point P (col. 7, lines 22-59).

Referring to claim 19, Takahashi further discloses that the projection algorithm locates, based on the counted numbers, the horizontal or vertical lines present in the search zone by analyzing peaks in X or Y projection profiles (figure 6).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Takahashi et al., U.S. Patent No. 5,966,473 ("Takahashi") and Syeda-Mahmood et al., U.S. Patent No. 6,621,941 ("Syeda"), further in view of Saitoh, U.S. Patent no. 5,220,621 ("Saitoh").

Referring to claim 5, Takahashi and Syeda do not explicitly disclose that the shape searching algorithm is an algorithm based on the Hough transform. However, this feature was exceedingly well known in the art. For example, Saitoh discloses a shape searching algorithm that is based on the Hough transform (col. 2, lines 3-7).

Takahashi, Syeda, and Saitoh are combinable because they are all concerned with image processing methods for document recognition. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the shape searching algorithm of Takahashi and Syeda so that it is based on the Hough transform, as taught by Saitoh. The suggestion/motivation for doing so would have been to provide the capability of extracting graphics of any shape, thereby enhancing the document recognition process (Saitoh, col. 2, lines 3-15). Therefore, it would have been obvious to combine Takahashi and Syeda with Saitoh to obtain the invention as specified in claim 5.

Conclusion

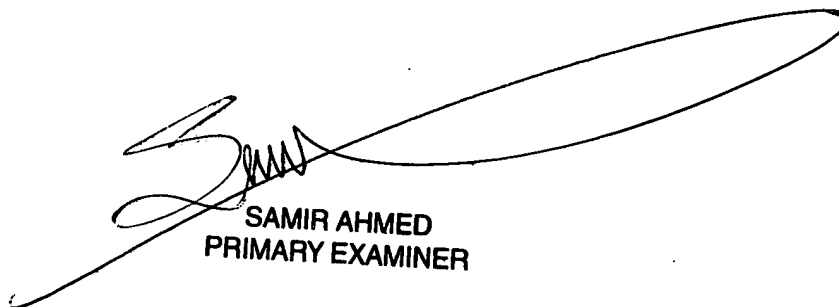
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ck

October 12, 2005


**SAMIR AHMED
PRIMARY EXAMINER**